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United States  
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Food Safety  
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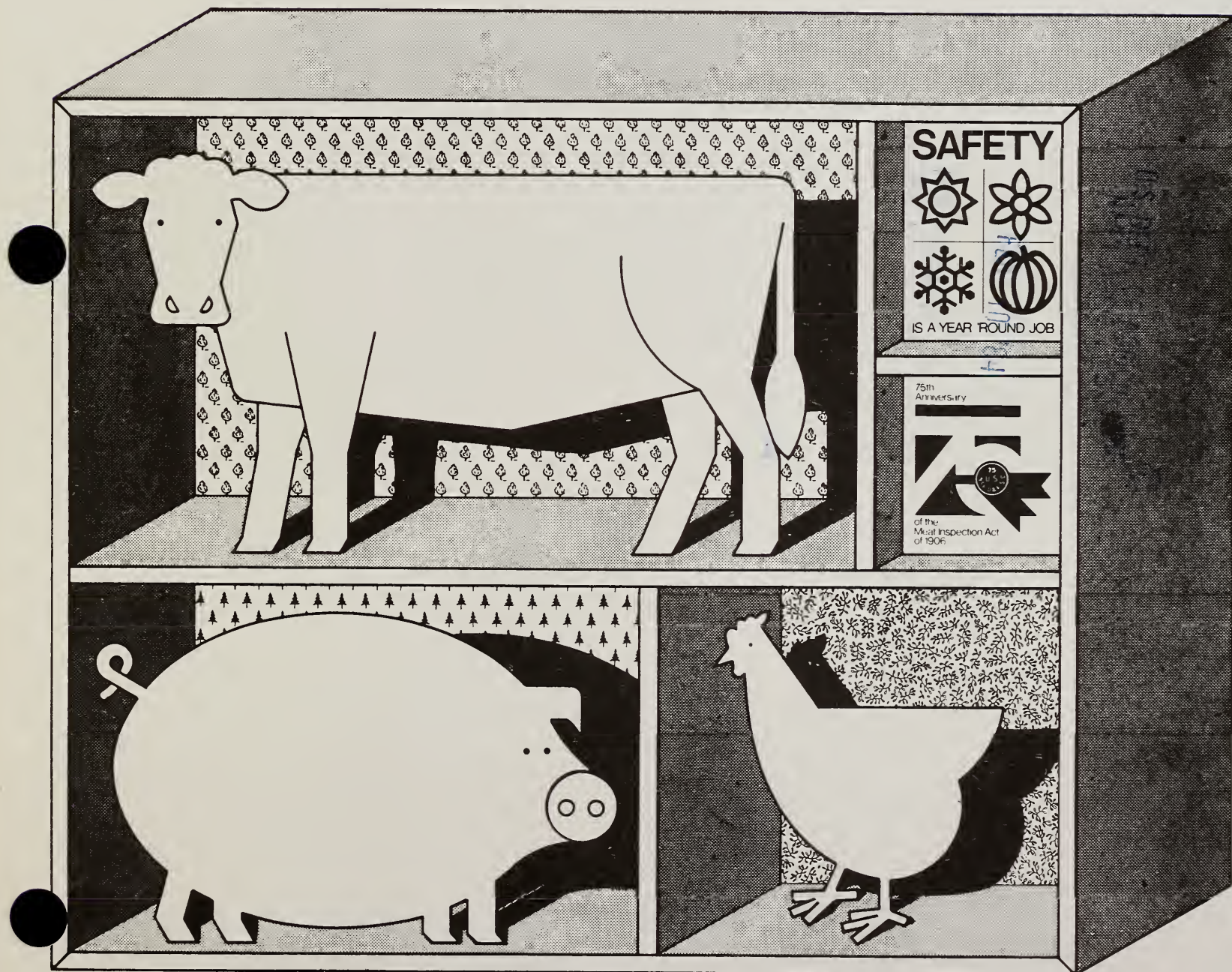
Meat and Poultry  
Inspection  
Program

November 1983

# Issuances of the Meat and Poultry Inspection Program

2499186

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1. The first part of the paper is devoted to a general discussion of the problem of the origin of life. It is shown that the problem is one of the most important and most difficult in the history of science. The author discusses the various theories of the origin of life, from the spontaneous generation theory to the modern theory of the origin of life from non-living matter. The author concludes that the most probable theory is the theory of the origin of life from non-living matter.



TABLE OF CONTENTS

Change 83-11 - Meat and Poultry Inspection  
Manual



UNITED STATES DEPARTMENT OF AGRICULTURE  
Food Safety and Inspection Service  
Meat and Poultry Inspection  
Washington, D.C. 20250

## **Meat and Poultry Inspection Manual**

Date: November 1983

Change Number: 83-11

### MAINTENANCE INSTRUCTIONS

<u>Remove Page</u>	<u>Insert Page</u>	<u>Numbered</u>
25 and 26	25 and 26	83-11
177 and 178	177, 178 and 178a	83-11
183	183 and 183a	83-11

# THE UNIVERSITY OF CHICAGO

## DEPARTMENT OF CHEMISTRY

### PHYSICAL CHEMISTRY

#### LECTURE NOTES

DATE	TOPIC	REMARKS
10/1/78	Thermodynamics	First Law, Enthalpy
10/8/78	Equilibrium	Chemical Equilibrium, Gibbs Free Energy
10/15/78	Solutions	Colligative Properties, Raoult's Law
10/22/78	Electrochemistry	Nernst Equation, Cell Potentials
10/29/78	Chemical Kinetics	Rate Laws, Arrhenius Equation
11/5/78	Reaction Mechanisms	Transition State Theory, Rate-Determining Step
11/12/78	Photochemistry	Photochemical Reactions, Quantum Yield
11/19/78	Atomic Spectroscopy	Atomic Emission Spectroscopy, Absorption Spectroscopy
11/26/78	Molecular Spectroscopy	Infrared Spectroscopy, Raman Spectroscopy
12/3/78	Mass Spectrometry	Mass Spectrometry, Ionization Techniques
12/10/78	Chromatography	Gas Chromatography, Liquid Chromatography
12/17/78	Electrochromism	Electrochromic Materials, Electrochromic Devices
12/24/78	Electrochromism	Electrochromic Materials, Electrochromic Devices
12/31/78	Electrochromism	Electrochromic Materials, Electrochromic Devices



**(e) Fingernails**

Persons handling exposed product shall keep their fingernails clean and neatly trimmed. Fingernail polish is not permitted.

**8.18 NONFOOD HANDLER**

All reasonable precautions shall be taken to prevent product contamination by visitors, maintenance personnel, and others.

Employees' traffic patterns that may result in product contamination should be eliminated.

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**WATER SUPPLY**
**Subpart 8-D**

(Regs: M-308; P-Subpart H)

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Plant water must be from an approved source, properly stored and distributed, and certified by local health agency. Nonpotable water may be used only as specified by regulations.

**8.21 SOURCE****(a) Public**

Water from an approved supply is generally acceptable as delivered to a plant; however, it may get contaminated during plant distribution.

**(b) Private**

Private wells must be on premises, and must be completely protected from drainage from septic tanks, livestock pens, etc. Ground water must percolate through at least 10 feet of soil before entering the well.

**8.22 CHLORINATION****(a) Chlorinators**

When chlorination is required to approve a private water supply, automatic chlorinators with devices indicating malfunctions must be used.

**(b) Chlorine Test**

Plant management is responsible for providing chlorine-testing kits, and for testing the water at least weekly to determine whether chlorine levels are as specified by State health agency.

\* \* \*

**8.23 NONPOTABLE WATER**

Untreated water from a river, lake, or unapproved well is considered nonpotable and, if used, shall meet all regulation requirements.

**Contamination Hazards.** Where nonpotable water is permitted, it must be used with adequate safeguards to prevent contact with edible products or potable water. Dead-end pipelines and improper cross connections of potable and nonpotable water lines shall be eliminated.

**8.24 ICE**

Water for ice making purposes must be potable. Ice producing, storing and handling equipment must be inspected for sanitary conditions.

Ice carried out of a poultry chiller with product may be replaced into the chilling system, provided it is collected and handled in a sanitary manner acceptable to the inspector in charge, and the ice is reused within the same day. If its cleanliness is questionable, it shall be rejected. Ice shall not be reused for chilling poultry product during further processing.

Since ice bag surfaces may become contaminated during handling, ice bags should not be placed over chill vats for emptying, unless the outer layer is removed.

**Water and Ice Storage.** It must be on the premises, and must be adequately protected from contamination.

Ice making or storing facilities (storage bins, etc.) should be lined with stainless steel or rust-resistant material. The metal should be of sufficient thickness to

withstand repeated striking of a shovel without puncturing. Suitable perforated, rust-resistant, and removable metal drainage plates should be provided at the bottom of the ice storage compartment, and frequently inspected to assure cleanliness. In some equipment used for producing flaked ice, water resulting from melted ice collects in a space below the ice storage compartment. This water should not be used in producing ice, nor in potable water lines or supply. It may be used to prechill water circulated in closed coils.

### **8.25 REUSE OF WATER**

It must comply with the regulations. Complete drainage and disposal of reused water, effective equipment cleaning, and reused water renewal with fresh potable water must be done frequently enough to assure an acceptable water supply for intended purpose.

#### **(a) Chilling Unit Water**

Overflow water from poultry chilling units may be used to move heavy solids in eviscerating troughs, but not to flush the trough's sides. After screening out visible solids, it may also be used in scald tanks, wax-hardening operations, feather flowaways, picker aprons, and for washing picking room floors.

#### **(b) Water from Condensor or Compressor**

It may be used as stated above if the system is closed and back-siphonage is prevented, or where artificially heated water is permitted, provided its potability is certified by a local or State health agency.

### **8.26 BACK-SIPHONAGE**

Contaminated or polluted water may enter a water supply system when negative pressure develops. This can be prevented by eliminating submerged water lines or by using functional vacuum breakers between the last cutoff valve and the submerged line.



products can be received only into such designated area or areas. The returned product area(s) are to be maintained at a proper temperature to hold returned product in a wholesome condition. The area(s) must be thoroughly cleansed and sanitized, including containers, tools, equipment, facilities, and employees' hands and aprons, as often as the inspector determines necessary to prevent product contamination.

All returned products should be delivered to the returned product area as soon as practical when they arrive at the establishment. They should not be sorted, removed, or otherwise handled until the inspector has given his approval for such sorting, handling, or removal.

#### (b) Inspector

The inspector will examine all products which would require inspection. Product that is wholesome and bears the official marks of Federal inspection will be released.

Returned product that has been reprocessed or reconditioned can be used for human food **only** if it is found on final inspection to be not adulterated nor misbranded. The product should not be removed from the establishment unless it is properly marked or labeled.

Returned product not identified with the official marks of Federal inspection can enter **only the returned product area(s)** for inspection. It must be held there for disposition in the following manner:

1. If the inspector can determine that products have been prepared under Federal inspection or imported and products are found to be wholesome, they may be released.

2. If the inspector can determine that products have been prepared under State inspection and they are found to be wholesome, they may be released for distribution in the State where prepared. However, they cannot be

released for distribution in interstate commerce.

3. Unwholesome or unidentifiable products must be condemned and destroyed.

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### CARCASS SPRAYING

Subpart 18-P

(Regs: M-318, P-Subpart O)

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#### 18.91 CARCASS SPRAYING

(a) Water sprays, whether chlorinated or not, may be used intermittently on carcasses during chilling provided a quality control program is approved by the Regional Director. In order to receive approval, the establishment should:

1. Submit to the Regional Director through the inspector in charge the complete details of the proposed quality control program in accordance with § 318.4 of the Regulations;

2. Furnish a statement that the spray procedure does not cause insanitary conditions, such as rust and condensation, in the cooler;

3. Submit the results of a 250 carcass test showing hot, pre-washed weights and sprayed, chilled weights of the same 250 carcasses, in which no carcass being tested gained weight; and

4. If chlorine is to be used, furnish a statement as to the concentration of the chlorine in parts per million.

(b) The details of the proposed program should include all facility and equipment changes needed to install the new system, including the type and location of monitoring equipment such as gauges, timers, and meters. The establishment

\* should furnish calibration schedules  
\* for monitoring equipment and scales  
\* and the locations and dimensions of  
\* the coolers in which the  
\* establishment intends to spray the  
\* carcasses.

\* (c) If the establishment uses a  
\* chlorine spray, microbiological tests  
\* to show efficacy of the chlorine are  
\* not required.

\* (d) The inspector, during the  
\* installation and testing of the  
\* program, should make sure that the  
\* establishment is not creating an  
\* unsanitary condition in the cooler  
\* and should review enough weighings  
\* or reweighings to ensure that the  
\* establishment is fairly and  
\* accurately recording correct  
\* weights, both before washing and  
\* after chilling.

\* (e) Once the program has been  
\* installed and successfully tested,  
\* the establishment should continue to  
\* sample and test a minimum of  
\* 10 carcasses per lot. The inspector  
\* should monitor this by reinspecting  
\* 20 to 100 percent of the carcasses  
\* tested by the establishment at no  
\* greater interval than once a week.

\* (f) No carcass should gain weight  
\* as a result of exposure to water  
\* spray. If an establishment employee  
\* discovers that one of the carcasses  
\* selected for the daily monitoring  
\* has gained weight, the entire lot is  
\* affected. If each carcass is marked  
\* with its own hot weight, the chilled  
\* lot can be reweighed carcass by  
\* carcass and if a carcass has not  
\* gained weight, it may be released.  
\* Those carcasses which have gained  
\* weight should be retained until the  
\* weight gain has been lost. If each  
\* carcass is not marked with its own  
\* hot weight, the entire lot must be  
\* retained until the sample unit has  
\* lost the weight it gained. In  
\* addition, in any case, the system  
\* should be adjusted to prevent  
\* recurrence.

(g) If the inspector discovers  
\* that the establishment has one or  
\* more carcasses which have gained  
\* weight, but which the establishment  
\* has misweighed, the inspector should  
\* hold and release the lot represented  
\* by the sample as described in para-  
\* graph (f) above, and, in addition,  
\* discontinue further spraying in that  
\* establishment until the establishment  
\* has reproved the system with another  
\* 250 carcass test.

(h) If the establishment wants to  
\* make a significant change in its  
\* spray system such as (1) volume of  
\* water used, (2) pressure of water,  
\* (3) length of time spray is  
\* administered, (4) length of time  
\* interval between sprays, or (5) size  
\* of droplet used, another 250 carcass  
\* test is required first. If the  
\* establishment so desires, it can  
\* retest by running one test over  
\* several days, or by spraying more  
\* than 250 carcasses for each test;  
\* however, the establishment must  
\* perform a pre-wash weighing and a  
\* post-chilling weighing for each  
\* carcass in the test. In addition,  
\* the test should involve all the  
\* coolers which the establishment  
\* intends to use in its spraying  
\* process.



## FREEZING

### Subpart 18-M

(Regs: M-318, P-Subpart 1)

#### 18.67 METHODS

The following methods are used to freeze meat or poultry products:

1. Blast freezing with high velocity air at about 20-40° F. below zero.

2. Contact-plate freezing for packages of uniform dimensions. Product is placed between metal plates reaching temperatures as low as 50° F. below zero.

3. Immersion freezing where product passes through a super chilled brine or other liquid.

4. Belt freezing which is usually continuous blast freezing on a moving belt. Carbon dioxide chambers are also employed as continuous freezers.

5. Holding freezers wherein product is held from 0 to 20° F. below zero. Air circulation is important in this type of freezing.

#### 18.68 INSPECTION

The inspector shall sufficiently check and monitor temperature charts and devices to determine regulation compliance.

#### 18.69 RAW STUFFED POULTRY

Since raw poultry stuffing provides an excellent medium for bacterial growth, it may create special problems. Since bulk is added to product, freezing time is lengthened. To minimize bacterial growth, consider the following sanitary procedures:

1. Stuffing bread shall not be damaged or contaminated, and shall be delivered and held in sanitary containers. Fresh or day old bread is acceptable.

2. Hand or mechanical stuffing equipment is satisfactory. Carcass

stuffing shall be done as rapidly as possible to prevent bacterial growth.

3. After preparation, stuffing should be chilled to approximately 35° F. before use, and should be used within a short time.

4. Stuffing operations should be done at room temperature below 70° F. while birds are kept chilled.

5. Stuffed carcasses should be put into freezer immediately after stuffing and bagging, and should be frozen within 24 hours.

#### 18.70 OFF-PREMISE FREEZING

##### (a) Meat

Meat, meat byproducts, and processed meat products labeled, "frozen" shall be handled for freezing as follows:

1. Meat cuts--hams, bellies, loins, etc.--boneless beef, pork trimmings, and meat byproducts in containers may be shipped refrigerated to an outside facility for freezing.

2. Processed meat products in institutional containers or consumer size packages; i.e., dinners, pot pies, fresh or cooked patties, pizza, breaded products, may be shipped refrigerated to a cold storage warehouse which has been approved under Section 350.3(c) of the regulations for freezing meat products. (Section 350.7 of the regulations explains the fees and charges for these reimbursable services.) \*

a. Application for Approval. In order to assure that processed meat products are handled and stored under wholesome conditions, the establishment shall submit a set of written procedures through the inspector-in-charge for approval by the regional director. The procedures shall contain information to assure that the products meet the same requirements as for products frozen at official plants. \*

\* **b. Responsibility**

\* **(i) Processing Establishment**

\* 1. Management shall notify the IIC when product is to be shipped to an off-premises freezer.

\* 2. Product shall be shipped in a sanitary covered vehicle.

\* 3. Product shall be no more than 40° F. at time of shipment. The temperature may fluctuate 5° F. during shipment, but may not exceed 45° F. at time of arrival at the freezer plant.

\* **(ii) Off-Premise Freezer**

\* 1. The approved freezing plant will be responsible for identifying each lot of product by number and for moving the product into the freezing area immediately after its arrival.

\* 2. Designated employees shall keep the following records and make them available to the IIC upon request.

\* (a) Product arrival date and time.

\* (b) Product temperature just prior to entering freezer.

\* (c) Daily log of freezer temperatures while product is in storage.

\* (d) Time and date product is reshipped.

\* 3. The freezing establishment will notify the IIC prior to the product leaving the freezer plant so that arrangements for an optional inspection may be made.

\* **(iii) Inspection.** The Circuit Supervisor shall assign an inspector to visit freezer locations as often as it is necessary to assure that products are properly handled. Frequency and the amount of product examined depend upon conditions and are left to the discretion of the Circuit Supervisor. Product found unwholesome, improperly frozen, or held at improper temperatures shall be reported to the Area Supervisor.

1. Meat and processed meat products prepared for export may be shipped refrigerated to an outside facility for freezing under the Certification Service (MR-350).

2. Meat and meat products may move unfrozen from the labeling plant under the jurisdiction of another Government Agency.

**(b) Poultry**

**(1) Approval; application.** RD grants permission to freeze product off-premises.

Plant management shall submit a completed Form MP 526 to the regional office through the area supervisor.

When approved, this form authorizes MPI employees to enter and inspect freezing facilities.

A new form shall be submitted when a change of ownership occurs.

**(2) Freezing Requirements.** They are the same as for product frozen at official plants. Approval is granted provided the applicant agrees to the following conditions: Before shipping, all poultry shall be chilled to 40° F. or less, as required by regulations, and shall be shipped in a sanitary covered vehicle to prevent product contamination.

**Exception!** Temperature of poultry to be shipped to a freezer in packaged form may rise to 55° F., provided total time elapsed between packaging and placement in freezer does not exceed 2 hours. If such time is more than 2 hours, poultry must be held under conditions that will lower and maintain the temperature at 40° F. or less (refrigerated truck, etc.) until placed into freezer.

**(3) Responsibility.**

**(i) Plant.** Management shall notify the inspector when product is to be shipped to an off-premises freezer.



(ii) **Freezer.** Designated employees of off-premise freezers shall keep a log or record including time product arrived, time it entered the freezer, product temperature when placed into the freezer, and after 72 hours therein, etc. Such history aids in determining inspection frequency.

(4) **Inspection.** The area supervisor shall assign an inspector to visit freezing locations as often as necessary to assure that products are properly handled.

Inspection will be on an intermittent spot-check basis. Amount of product to examine for adequate freezing is at the inspector's discretion.

Size, sample, and frequency of inspection vary depending upon handling practices, promptness of movement into freezer, and freezing facilities.

(i) **Unacceptable freezing.**

Product found unwholesome, improperly frozen, or held at improper temperatures shall be reported to the area supervisor. Product which is grade labeled and does not meet the requirements of 7 CFR 70.353(h) or 70.354(h) shall be reported to the appropriate Federal-State supervisor.

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UNITED STATES DEPARTMENT OF AGRICULTURE  
Food Safety and Inspection Service  
Meat and Poultry Inspection  
Washington, DC 20250

MEAT AND POULTRY INSPECTION REGULATIONS

Date: November 1983      Change Number:

MAINTENANCE INSTRUCTIONS

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Remove Page

Insert Page

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There are NO Regulation changes this month.

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